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SCROTAL MIGRATION OF PERITONEAL END OF VENTRICULO PERITONEAL SHUNT: AN UNUSUAL CAUSE OF ACUTE SCROTUM

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Article Info	ABSTRACT
<p>Received 15/12/2014 Revised 27/12/2014 Accepted 29/12/2014</p> <p>Key words: Ventriculo peritoneal shunt, inguinal hernia, Shunt migration.</p>	<p>A four month old boy, an operated case of thoracolumbar meningomyelocele and hydrocephalus with a right sided ventriculo peritoneal shunt presented with right sided acute scrotum after one week of initial surgery. Abdominal radiograph showed a loop of peritoneal end of shunt catheter in the right hemi scrotum. An inguino scrotal exploration with intraabdominal reposition of the peritoneal end of the shunt with high ligation of the patent processus vaginalis resolved the problem. Conclusion: Scrotal migration of peritoneal end of ventriculo peritoneal shunt is a rare entity. High index of suspicion is required for diagnosis. Treatment is by repositioning the shunt and herniotomy by standard method.</p>

INTRODUCTION

Ventriculo peritoneal shunt (VP shunt) which is most widely performed for hydrocephalus is associated with various complications. Reported complications - apart from infectious and mechanical complications- include protrusion through the anus, vagina and per urethra [1,2]. Formation of hydrocele or inguinal hernia following VP shunt in the presence of patent processus vaginalis has been widely reported with recommendation for prophylactic high ligation of the patent processus vaginalis [3]. But migration of the peritoneal end of the VP shunt through an undiagnosed patent hernial sac later presenting as an acute scrotum is rarely reported and can lead to diagnostic difficulties [1].

CASE REPORT

A four month old boy, who was a patient of thoraco-lumbar meningomyelocele and hydrocephalus, had been operated for placement of a right sided ventriculo

peritoneal shunt using medium pressure Chabbra's shunt (Surgiwear, India). Patient also had bowel and bladder incontinence and Para paresis associated with weak abdominal muscle tone. A week after surgery he presented with fever and right scrotal swelling.

On examination patient was febrile without any evidence of shunt malfunction. Right hemi scrotum was inflamed, tender and was not trans-illuminant. Right testis could not be palpated. A firm cord like structure could be felt at the root of the scrotum and also on per rectal examination.

Urine and CSF obtained through chamber tap were sent for analysis, which were later found to be normal. Total white cell count was 12200 per cuml with 20% polymorphs. A strangulated inguinal hernia was kept in mind and vertical plain radiograph of the abdomen was obtained, which showed a loop of the peritoneal end of the VP shunt in the right hemi scrotum. Ultrasound Doppler



examination of the scrotum revealed normal testis with a loop of Ventriculo peritoneal shunt into the right scrotal sac without any bowel loop and minimal hydrocele.

Emergency right inguino-scrotal exploration revealed a functioning shunt in the inguinal hernial sac and scrotal edema with minimal fluid. On table CSF sample

analysis showed a protein content of 68mg%, sugar of 49 mg, 140 leucocytes with 100% lymphocytes. The peritoneal end of the shunt was repositioned within the peritoneal cavity proper and high ligation of the patent processus vaginalis was done. Post op recovery was uneventful.

Figure 1. Radiograph of the abdomen showing migrated shunt tubing in the scrotum.



Figure 2. Photograph showing inflamed scrotum.



Figure 3. Inguinal exploration showing peritoneal end of the shunt in the hernial sac.



DISCUSSION AND CONCLUSION

Higher incidence of unobliterated processus vaginalis in children is a well-established fact with potential for hernia formation. In patients with meningomyelocele weak abdominal muscle tone contributes the inguinal hernia formation. A prophylactic inguinal hernia repair is advised in these patients before the placement of ventriculo peritoneal shunt when an inguinal hernia is present [1,2].

Though migration of peritoneal end of the shunt in to the patent processus is a potential complication, it is

seldom reported in the literature [7]. Presentation as acute scrotum adds to the complexity of the diagnostic difficulty. This possibility should be kept in mind in a child with ventriculo peritoneal shunt [4,7]. Repair of inguinal hernia should be done before insertion of the shunt in a child with inguinal hernia associated with hydrocephalus.

In such cases as the one reported above exploration of inguinal canal, reposition of the peritoneal catheter and repair of the inguinal hernia will be required and gives a satisfactory result [5,6,7].

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